



Summary

This analysis assessed the impact on re-offending of an intervention targeted at young offenders who had committed a violent offence, provided by Warwickshire Youth Justice Service (WYJS). The one year proven re-offending rate¹ for 82 offenders who received the service was 38%, compared with 51% for a matched control group of similar offenders. Statistical significance testing has shown that this difference in the re-offending rates is statistically significant²; meaning that we can be confident that there is a real difference in the re-offending rate for the group who received the intervention.

The offenders included in this analysis all had index offences of violence against the person, and were all between 14 and 18 years of age at the time of this offence. The individuals in this analysis were receiving a statutory programme of provision, which is statutory for all young offenders who commit and are subsequently convicted of violent offences. This analysis therefore presents a comparison of the provision from WYJS against the statutory provision outside the Warwickshire area.

What you can say: This analysis shows that participating in an intervention provided by Warwickshire Youth Justice Service led to a reduction in re-offending of between 2 and 24 percentage points.

Introduction

Warwickshire Youth Justice Service provides interventions to young offenders in the community in the Warwickshire area, with a small number of interventions started in custody but completed in the community, as well as forming part of voluntary diversion programmes. It is a multi-agency service comprising social workers, probation, education, police, substance misuse and health service representation, all of which can be accessed directly. For the particular group in this analysis, all participants had an index offence of violence against the person and had an intervention programme that addressed issues of violence, anger management and victims. The intervention programmes were delivered on a one-to-one basis, the duration and intensity of the intervention being based on the combination of the length of the order, requirements of National Standards and the individual

¹ The **one year proven re-offending rate** is defined as the proportion of offenders in a cohort who commit an offence in a one year follow-up period which was proven through receipt of a court conviction, caution, reprimand or warning during the one year follow-up or in a further six month waiting period. The one year follow-up period begins when offenders leave custody or start their probation sentence.

² The p-value for this significance test was 0.02. Statistical significance testing is described on page 6 of this report.

assessment of risk, need and responsivity. National Standards for Youth Justice are set by the Youth Justice Board and apply to all nationwide statutory services with young offenders. National Standards in Youth Justice ensure delivery of effective practice in youth justice services, safeguarding of young people, and protection of the public from harm caused by young offenders. Where possible and appropriate, youth justice services should have freedom and flexibility to adapt their practice to local context.

All participants in the final treatment group had an intervention programme that started between 2008 and 2010 and was closed in 2010. These individuals had received a statutory court order following conviction and sentencing for offending behaviours. A number of the individuals submitted were part of a Final Warning Programme, which we are currently unable to include in analysis as this type of sentence does not incur a conviction (Final Warning schemes involve young people agreeing to be part of the programme, and in most cases an intervention takes place). For consistency, this analysis presents only those individuals who received a community, or custodial sentence.

Processing the Data

124 WYJS sent a request to the Justice Data Lab relating to 124 offenders who received an intervention which started between 2007 and 2010 and was closed during 2010. Data for 139 individuals was initially submitted, but there were duplicate records where participants received more than one referral. In total there were 124 unique offender records for the analysis where the last referral for each individual was taken for re-offending analysis.

120 120 of the 124 offenders were matched to the Police National Computer, a match rate of 97%.

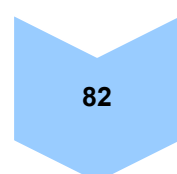
99 At this stage, 21 individuals were removed from the group; seven who were under 14 years of age and 14 who were part of a Final Warning Programme, which were not included in this analysis. See the caveats section for more information on this.

86 86 offenders had an identifiable sentence which matched the timing of the intervention. Of this 86; six of the matched cohort had custodial sentences (at a Young Offenders Institute (YOI)) and 80 had community sentences, all of whom were released from custody or started their community sentence between 2007 and 2010.

83 Three individuals were removed at this stage for modelling purposes as they had individual characteristics that were different to the rest of the group, including criminal history and demographic characteristics.

The data initially submitted included a very small number of young offenders who received sentences in 2007 and 2008 where the interventions closed in 2010. However, there was an insufficient number to include these cohorts in the analysis. It is recommended that WYJS submit more data relating to these years as the analysis is limited to those who received the provision from WYJS in 2009 and 2010, and completed their programme during 2010.

Creating a Matched Control Group



Of the 83 offender records for which re-offending data was available, 82 could be matched to offenders with similar characteristics, but who did not receive a service from WYJS. In total the matched control group consisted of 41,403 offender records, including only individuals whose records indicate that they reside outside the Warwickshire area.

This additional check to ensure the control group contains only individuals from the Warwickshire area ensures that any difference in re-offending is attributable to the particular service that WYJS provide, rather than the National Standards for young offenders which will be implemented in all areas.

As this matched control group contains only 14 to 18 year olds with a violent index offence, they will all have been subject to a community or custodial sentence as part of a statutory requirement of their court order.

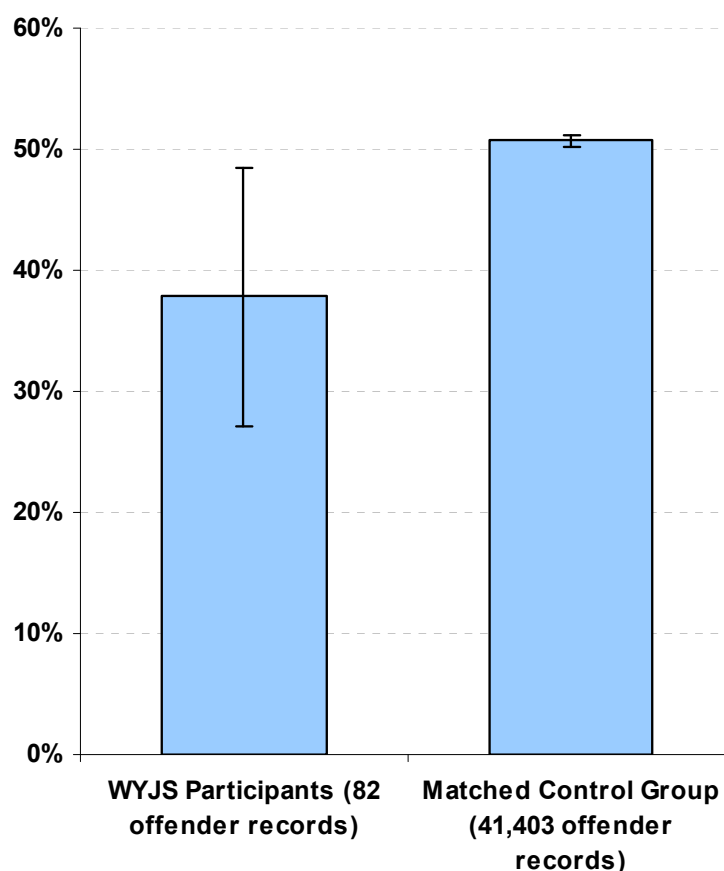
The Annex provides information on the similarity between the treatment and control groups. Further data on the matching process is available upon request.

Results

The one year proven re-offending rate for 82 offenders who received the service was 38%, compared with 51% for a matched control group of similar offenders. This information is displayed in Figure 1 on the next page.

Figure 1 on the next page presents the 95 per cent confidence intervals for the re-offending rates of both groups, i.e. the range in which we can be 95 per cent sure that the true re-offending rate for the groups lie. For this analysis we can be confident that the true reduction in re-offending between the two groups is between 2 and 24 percentage points. It is important to show confidence intervals because both the treatment and matched control groups are samples of larger populations; the re-offending rate is therefore an estimate for each population based on a sample, rather than the actual rate.

Figure 1: The best estimates for the one year proven re-offending rate for offenders who received an intervention from WYJS, and a matched control group.



As these confidence intervals are wide, the precision of this estimate could be improved if the size of the WYJS programme group used in the analysis was increased. It is recommended that the analysis is repeated on a larger sample, including previous years of information, and when additional years of data become available, as this analysis is limited to those who received a community sentence, or were released from a custodial sentence, in 2009 and 2010 and who completed their programme during 2010.

Additional proven re-offending measures

Frequency of re-offending

The frequency of one year proven re-offending for 82 offenders targeted by WYJS was 1 offence per individual, compared with 1.7 per individual in the matched control group. Statistical significance testing has shown that this difference in the re-offending rates is statistically significant³.

³ The p-value for this significance test was 0.02. Statistical significance testing is described on page 6 of this report.

This result is in line with the findings around the indicator of one year proven re-offending; the subject of this report. The same caveats and limitations apply to these findings, which are described below.

Caveats and Limitations

The statistical methods used in this analysis are based on data collected for administrative purposes. While these include details of each offender's previous criminal, benefit and employment history alongside more basic offender characteristics such as age, gender and ethnicity, it is possible that other important contextual information that may help explain the results has not been accounted for. It is possible that underlying characteristics about the individuals included in the analysis which were not captured by the data (e.g. family circumstances; educational background; personal attributes) may have impacted re-offending behaviour.

Many organisations that work with offenders will look to target specific needs of individuals; for example improving housing, or employability. However, how the organisations select those individuals to work with could lead to selection bias, which can impact on the direction of the results. For example; individuals may self select into a service, because they are highly motivated to address one or more of their needs. This would result in a positive selection bias, meaning that for these persons we would generally expect a better re-offending outcome as they are more motivated. Alternatively, some organisations might specifically target persons who are known to have more complex needs and whose attitudes to addressing their needs are more challenging. This would result in a negative selection bias, meaning that for these persons we would generally expect a poorer re-offending outcome as they are not motivated. However, factors which would lead to selection bias in either direction are not represented in our underlying data, and cannot be reflected in our modelling. The WYJS service is provided to young people on a statutory court order; and so while self and organisational selection bias do not apply to their initial contact with the service, the subsequent delivery of the service may be subject to co-operation and participation in certain elements of the programme. The multi-faceted nature of the service offering, which includes education, police, health, probation, substance misuse and social services, means that the intervention programme can be tailored to the needs and co-operation of the offender, leading to variation in intervention types and subsequent engagement with the service.

For this analysis in particular, it is known that WYJS specifically delivered the intervention to young offenders with a violent index offence. The matched control group had the same index offences and age range, and so the results of the analysis can only be applied to those particular groups and not more generally. Additionally, as this matched control group contains only 14 to 18 year olds with a violent index offence, we can assume that they will all have been subject to some kind of intervention, since this is a statutory requirement for this age group of offenders. Removing control group cases from Warwickshire ensures that any difference in re-offending is attributable to the particular service that WYJS provide, rather than to standard national practices for young offenders.

Furthermore, only 82 of the 124 unique offender records originally shared with the MoJ were in the final treatment group. The section “Processing the Data” outlines key steps taken to obtain the final group used in the analysis. In many analyses, the creation of the matched control group will mean that some individuals, who will usually have particular characteristics – for example a particular ethnicity, or have committed a certain type of offence, will need to be removed to ensure that the modelling will work. Steps will always be taken at this stage to preserve as many individuals as possible, but due to the intricacies of statistical modelling some attrition at this stage will often result. As such, the final treatment group may not be representative of all offenders who were targeted by WYJS. For example, young offenders in the data who were involved in Final Warning Programmes are not included. In all analyses from the Justice Data Lab, persons who have ever been convicted of sex offences will be removed, as these individuals are known to have very different patterns of re-offending. There were no previous sex offences in the WYJS treatment cohort.

In addition to the individuals who were lost in the matching process, Warwickshire Youth Justice Service have carried out work with further cohorts of young offenders whose interventions closed before 2010 and who had index offences of a non-violent nature. These individuals were not included in the data submitted at this time. The results included in this report are only relevant to the offenders with characteristics specified in this report, however doing a further analysis with additional numbers of individuals would help create a more precise estimate of the impact of WYJS.

The re-offending rates included in this analysis **should not** be compared to the national average, nor any other reports or publications which include re-offending rates – including those assessing the impact of other interventions. The re-offending rates included in this report are specific to the characteristics of those persons who received a service from WYJS during the time period specified, and could be matched. Any other comparison would not be comparing like for like.

For a full description of the methodology, including the matching process, see www.justice.gov.uk/downloads/justice-data-lab/justice-data-lab-methodology.pdf.

Assessing Statistical Significance

This analysis uses statistical testing to assess whether any differences in the observed re-offending rates are due to chance, or if the intervention is likely to have led to a real change in behaviour. The outcome of the statistical testing is a value between 0 and 1, called a ‘p-value’, indicating the certainty that a real difference in re-offending between the two groups has been observed. A value closer to 0 indicates that the difference in the observed re-offending rates is not merely due to chance. For example, a p-value of 0.01 suggests there is only a 1 per cent likelihood that any observed difference in re-offending has been caused by chance.

For the purposes of the analysis presented in this report, we have taken a p-value of up to 0.05 as indicative of a real difference in re-offending rates between the treatment and control groups.

The confidence intervals in the figure are helpful in judging whether something is significant at the 0.05 level. If the confidence intervals for the two groups do not overlap, this indicates that there is a real difference between the re-offending rates.

Annex

Table 1: Characteristics of offenders in the treatment and control groups

	Treatment Group	Matched Control Group	Standardised Difference
Number in group	82	41,403	
Ethnicity			
White	93%	93%	1
Black	7%	7%	-1
Gender			
Proportion that were male	72%	72%	0
Age			
Mean age at Index Offence	16	16	1
Mean age at first contact with CJS	13	13	3
Index Offence¹			
Violent offences (serious)	7%	7%	4
Violent offences (non-serious)	73%	74%	-2
Public Order or Riot	20%	20%	-1
Criminal History²			
Mean Copas Rate	-1.2	-1.2	-2
Mean total previous offences	6	6	0
Mean total custodial events	0	0	0
Mean previous criminal convictions	2	2	0
Mean previous court orders	2	2	0
Employment and Benefit History			
In P45 employment (month prior to conviction)	11%	10%	3
Claiming Out of Work Benefits (year prior to conviction) ³	15%	13%	4
Notes:			
1 Index Offence is based on OGRS categories. Further details on make-up of categories available upon request.			
2 All excluding Penalty Notices for Disorder. All prior to Index Offence.			
3 Out of Work Benefits include people on Jobseeker's Allowance (JSA), Employment and Support Allowance (ESA), Incapacity Benefits (IB) and Income Support (IS) but it does not count people whose primary benefit is Carer's Allowance (CA).			
All figures (except mean copas rate) are rounded to the nearest whole number, this may mean that percentages do not sum to 100%.			
Standardised Difference Key			
Green - the two groups were well matched on this variable (5% or less)			
Amber - the two groups were reasonably matched on this variable (6%-10%)			
Red - the two groups were poorly matched on this variable (10% +)			

Table 1 shows that the two groups were well matched on all variables found to have associations with receiving treatment and/or re-offending. The standardised mean differences are highlighted green because they were between -5% and 5%, indicating close matches on these characteristics.

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General information about the official statistics system of the United Kingdom is available from www.statistics.gov.uk

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